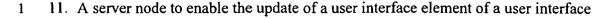
## **CLAIMS**

## What is claimed is:

- 1 1. A method for transferring data between a control object of a user interface and an
- 2 application component of an application program without direct communication between
- 3 the user interface and the application program, the method comprising:
- 4 accessing, by an application-independent process, from a description file associated
- 5 with the application program one of (i) a layout description of the control object that is
- 6 displayed on the user interface and (ii) a connection description associating the control
- 7 object with the application component of the application program; and
- 8 transferring data representative of a change to one of the application component
- 9 and the control object.
- 1 2. The method of claim 1 further comprising translating content of the description file,
- 2 by the application-independent processes, to generate the control object and to associate
- 3 changes represented by the transferred data with one of the control object and the
- 4 application component.
- 1 3. The method of claim 1 further comprising establishing a communication channel
- 2 between the application-independent client process and the application-independent
- 3 server process.
- 1 4. The method of claim 3 wherein the communication channel is asynchronous.
- 1 5. The method of claim 1 wherein the description file is in XML format.

- 1 6. The method of claim 1 further comprising generating an instance of the control
- 2 object.
- 1 7. The method of claim 1 wherein the application component comprises a member
- 2 representative of an attribute of the application component alterable by a user or
- displayable to the user, further comprising generating an instance of management code,
- 4 the management code instance mapping the correspondence between the control object
- 5 and the application component member.
- 1 8. The method of claim 1 further comprising generating a container object for each
- 2 application component and control object.
- 1 9. The method of claim 1 wherein the application component comprises a member
- 2 representative of an attribute of the application component alterable by a user or
- 3 displayable to the user, further comprising:
- 4 monitoring the application component member and the control object; and
- transferring data in response to a change of state of one of the application component
- 6 member and the control object.
- 1 10. The method of claim 1 wherein the application component comprises a member
- 2 representative of an attribute of the application component alterable by a user or
- displayable to the user, further comprising:
- 4 generating a unique identifier for one of the application component member and the
- 5 control object; and
- 6 referencing the unique identifier in a proxy layer.



- 2 without direct interaction between an application program and the user interface, the
- 3 server node comprising:
- a description file associated with the application program, the description file
- 5 including one of (i) a layout description of the user interface element and (ii) a connection
- 6 description associating a control object of the user interface with an application
- 7 component of the application program; and
- 8 an application-independent process in communication with the application program, the
- 9 application-independent process accessing the description file, detecting a change of state
- to the application component and transferring data in response to a detected change of
- state of the application component.
- 1 12. The server node of claim 11 wherein the application-independent process is further
- 2 configured to update the application component in response to received data, the received
- data representing a change of a state of the associated control object of the user interface
- 4 on a client.
- 1 13. The server node of claim 11 wherein the description file is in XML format.
- 1 14 (Amended) The server node of claim 12 wherein the application component
  - comprises a member representative of an attribute of the application component alterable
  - by a user or displayable to the user; and wherein the application-independent process
- 4 further comprises an instance of management code, the management code instance

- 5 mapping the correspondence between the application component member and a control
- 6 object located on a client.
- 1 15. (Amended) The server node of claim 11 further comprising a container object for
- 2 each application component.
- 1 16. (Amended) The server node of claim 11 wherein the application component
- 2 comprises a member representative of an attribute of the application component alterable
- 3 by a user or displayable to the user; and wherein the application-independent process
- 4 further comprises a container object monitoring the application component member
- 5 associated with that container object and initiating data transfer in response to a change of
- 6 state of the associated application component member.
- 1 17. (Amended) The server node of claim 11 wherein the application component
- 2 comprises a member representative of an attribute of the application component alterable
- 3 by a user or displayable to the user; and wherein the server node further comprises a
- 4 proxy layer referencing a unique identifier for the application component member.
- 1 18. (Amended) A client node to enable the update of a user interface element of a user
- 2 interface without direct interaction between an application program and the user interface,
- 3 the client node comprising:
- a description file associated with the application program, the description file
- 5 including one of (i) a layout description of the user interface element and (ii) a connection
- 6 description associating a control object of the user interface with an application
- 7 component of the application program; and

an application-independent process in communication with a server, the
application-independent process accessing the description file, generating a control object
associated with the application component based on the description file and updating the
user interface in response to receiving data representing a detected change of state of the
application component.

- 1 19. (Amended) The client node of claim 18 wherein the application-independent process
- 2 is further configured to detect a change of state of the user interface and to transfer data to
  3 the application-independent server process in response to the detected change.
  - 20. (Amended) The client node of claim 18 wherein the description file is in XML format.
- 1 21. (Amended) The client node of claim 18 wherein the application-independent process
- 2 further comprises an instance of a control object for each of a plurality of user interface
- 3 elements, the control object instance representing a corresponding user interface element.
- 1 22. (Amended) The client node of claim 18 further comprising a container object for the
- 2 control object.
- 1 23. (Amended) The client node of claim 18 further comprising a container object
- 2 monitoring the control object associated with the container object and initiating data
- 3 transfer in response to a change of state of the associated control object.
- 1 24. (Amended) The client node of claim 18 further comprising a proxy layer referencing
- 2 a unique identifier for the control object.